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The Voice of the Industrial Energy Consumers

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BEFORE THE

UNITED STATES HOUSE OF REPRESENTATIVES

COMMITTEE ON ENERGY AND COMMERCE

SUBCOMMITTEE ON ENERGY AND ENVIRONMENT

TESTIMONY OF

PAUL CICIO

INDUSTRIAL ENERGY CONSUMERS OF AMERICA

REGARDING

**COMPETITIVENESS AND CLIMATE POLICY: AVOIDING
LEAKAGE OF JOBS AND EMISSIONS**

WASHINGTON, DC
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Congressional Justification for Not Capping GHG Emissions of the Industrial Sector*

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* Not all members agree with this testimony.

Key Points:

Capping the greenhouse gas (GHG) emissions of the industrial sector will drive investment and jobs offshore and increase imports. It will not bring major developing countries to the table but they will benefit through increased exports to the US. Even the third phase of the EU Emissions Trading Scheme (ETS) contains a provision to ensure their trade exposed industries receive compensation in order to prevent job loss and emissions leakage. Regulating the US industrial sector “before” negotiating an international agreement undermines our ability to achieve a fair and effective GHG reduction agreement for US industry.

For the industrial sector, climate policy is also trade, energy, economic and employment policy. They are all intrinsically linked and inseparable. It is for this reason that regulating GHG emissions for the industrial sector be negotiated with both developed and developing countries in the context of a fair trade and productivity.

The US industrial sector is not the problem. In the US, the industrial sector’s GHG emissions have risen only 2.6% above 1990 levels while emissions from the residential sector are up 29%, commercial up 39%, transportation up 27% and electricity generation up 29%.

The industrial sector competes globally and requires a global GHG policy solution that is based on productivity, something that the developing countries industrial sector can potentially agree to. A GHG cap is an unacceptable policy alternative for them and for us.

The US cannot grow the economy without using more volume of our products. The only question is whether the product will be supplied from domestic sources or imports. In fact a cap limits economic efficiency because it even limits the ability to maximize production from existing facilities that are not running at installed capacity. Since 2000, US manufacturing has been losing ground. From 2000 to 2008, imports are up 29% and manufacturing unemployment fell 22%, losing 3.8 million jobs, a direct statistical correlation.

The use of energy by the industrial sector is value-added. Our products enable GHG emission reductions. Lifecycle studies show that they save much more energy and GHG emissions than what is used/emitted in their production. Raising energy costs raises the cost of these valuable products.

The industrial sector already has a price signal for GHG emissions, it is called global competition and because we are energy intensive, we either drive down our energy costs or go out of business.

Under cap and trade, the industrial sector pays twice. Through the additional cost of carbon embedded in energy purchases and through the higher cost of natural gas and electricity. Higher demand for natural gas will result in higher prices for all consumers. Since natural gas power generation sets the marginal price of electricity, higher natural gas prices will mean higher electricity prices for all consumers.

A cap will damage the ability of the US industrial sector to take back market share from imports and increase exports.

Cap and trade does not address our country’s fundamental need to significantly increase the availability, affordability and reliability of low carbon sources of supply.

Carbon trading and market manipulation is of great concern. The US government has proven unable to prevent market manipulation for mature energy and food commodities and credit default swaps - carbon markets will be much harder to regulate.

If the US proceeds to cap GHGs, it must provide to industry free allowances equal to the resulting increased direct and indirect costs due to GHG regulation until major competing developing countries have similar cost increases.

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Congressional Justification for Not Capping GHG Emissions of the Industrial Sector

Congress has a choice to make and it is a decision it cannot afford to make incorrectly. It must decide whether to maintain and possibly increase US manufacturing jobs by not capping GHG emissions on the industrial sector – or create jobs in foreign countries by importing manufacturing products to supply the needs of our economy.

The Industrial Energy Consumers of America is an association of leading manufacturing companies with \$510 billion in annual sales and with more than 850,000 employees nationwide. It is an organization created to promote the interests of manufacturing companies IECA membership represents a diverse set of industries including: plastics, cement, paper, food processing, brick, chemicals, fertilizer, insulation, steel, glass, industrial gases, pharmaceuticals, aluminum and brewing.

The decision should not be hard because there is very sound economic and environmental justification for Congress to not act in the short term to cap GHG reductions on the industrial sector but to forge a different policy path that will provide sustained GHG reductions globally by harnessing real market forces called competition.

The industrial sector needs a globally level playing field that lets the best companies win. Adding costs by unilateral action helps “all” of our competitors in other countries take our business and our jobs. **We need US leadership to forge a global effort to address industrial sector GHG emission reductions that is focused on “fair trade” and “productivity”. This is the only way to potentially bring developing nations to the table.**

Productivity is a language that all manufacturers understand and fundamental to competition. We believe that all governments want increased productivity by their industrial sector. We urge you to take action in this more realistic direction.

The world in which the industrial manufacturing company operates is diverse and business is often won or lost on the difference between pennies per unit of product. Competitiveness is everything. Some segments of industry, such as the power producers, may support cap and trade, but that’s because they don’t compete globally and they simply pass through their increased costs, we don’t have that luxury.

Unlike that vision that many Americans have of China building coal-fired power plants using antiquated technology, it is vitally important that the Congress understand that a great number of companies that we compete with from developing countries are top-in-class competitors. They are utilizing the latest, world class technology. Some of these facilities are state owned or supported. Many also have subsidized energy costs. Energy costs most often determine our competitiveness and it can be our largest non-controllable cost.

The congress can act in the public interest to consider both the cost and benefits of not imposing the cap on the industrial sector. The benefits of not imposing a GHG cap include good paying jobs, exports that reduce our balance of payments and the domestic production of products that are solutions to our climate challenges.

So far, only the environmental costs have been debated. We caution you to consider that your policy decision can lead to a further acceleration of the loss of the industrial sector. Just look at

the facts. Due to the loss of competitiveness since 2000, the manufacturing sector has lost 3.8 million jobs thru 2008. During this same time period, imports rose 29%, a direct statistical correlation. (See Charts 3 and 4.)

President Obama rightfully points to the disappearing middle class as troubling. We agree. The US began to lose the middle class when the industrial sector began to lose competitiveness along with our high paying jobs that most often pay benefits. The timing is consistent. We encourage the president and Congress to work with us to put new industrial policies in place that will increase competitiveness and grow the industrial sector and greatly restore the middle class.

To their credit, Representative Inslee and Doyle have rightfully recognized the need to protect manufacturing competitiveness. They are well intentioned but their solution is not really a solution for an industry that competes globally. We will still be burdened with costs and uncertainty. Most importantly, it does not do anything to bring the industrial sectors of developing countries into a climate agreement. Instead, a global solution is warranted that puts us on equal footing with our competitors. The international agreement should be negotiated first, not second. Regulating the US industrial sector in advance of negotiations completely removes our negotiation leverage.

The global reality is that developing nations place a significant priority on their manufacturing sector for both domestic economic growth and exports. They have a long history of providing all types of subsidies that include energy and trade credits. If they subsidize energy costs for their manufacturers, why wouldn't they also subsidize the cost of GHG reductions to enable exports to the US? US industry needs a level playing field - and then let us compete.

The justification is obvious and in the best interests of the country. The industrial sector's absolute GHG emissions are only 2.6% above 1990 levels and the rate of change has been flat due to energy efficiency improvements and a declining manufacturing presence. In contrast, according to the EPA, the transportation sector emissions are up 27%, residential up 29%, commercial up 39% and power generation up 29%. The point is that the industrial sector is not a contributor to growing GHG emissions and should not be a high priority for GHG reduction mandates.

Secondly, the products we produce are essential for economic growth of the country and a vibrant opportunity to create new high paying jobs. As the economy rebounds, our country will require significant volumes of the products that we produce such as cement, steel, aluminum, chemicals, plastics, paper, glass, and fertilizer which are all energy intensive. You can't produce renewable energy without our products. The question Congress must answer is whether it wants these products to be supplied by production facilities in the US or imported from foreign countries.

If Congress places a declining GHG cap on the industrial sector, you can be pretty confident that US companies will "not" invest their capital nor create jobs in the US. The reason is obvious. There is a lack of confidence that other countries will place a GHG cap on their manufacturers any time soon which would place US industry at a significant competitive disadvantage. Setting a starting date of 2012 for a GHG cap will result in industrial companies making pre-emptive capital decisions on where to locate and increase the production of their products that anticipates these assumptions.

Third, products from the manufacturing sector provide the "enabling solutions" to the challenges of climate change and it is important that GHG regulation does not increase the cost of these products to deter consumer purchases.

It takes energy to save energy. Insulation can be made from glass, plastic or paper, all of which are energy intensive. Double pane windows use twice the amount of glass but save an enormous amount of energy over the life of a building. Reducing the weight of autos, trucks and aircraft is an essential solution but requires greater use of aluminum, composite plastics and

different grades of steel. More steel and plastics are needed for wind turbines. The production of solar silicon used to make solar panels is energy intensive. There are literally a thousand examples of how manufacturing products contribute to the climate solution and it is important to keep the cost of these products low.

The industrial sector is the “green sector”. Manufacturing has a remarkable track record of reducing energy while continuing to increase the output of product. They predominantly use natural gas as a fuel versus coal. They are the largest consumer of biomass that is used for making paper and as a fuel for producing energy efficient steam and power. They utilize combined heat and power extensively and substantial quantities of recycled steel, aluminum, glass and paper which is extraordinarily energy efficient.

Fourth, placing a GHG cap on manufacturing makes it much more difficult for our sector to reclaim domestic market share and increase exports. The US has a significant trade deficit in part due to declining manufacturing product exports that accelerated in 2000 as US natural gas prices rose and imports increased.

A lot of these imports are from China, a country that values its manufacturing sector. And now, the US is dependent upon China to finance its burgeoning debt. Improving the competitive health of our manufacturing sector can help reduce this dependency. Increasing competitiveness of the industrial sector and increasing exports is an important matter of public policy that needs addressed.

The decision is yours to make. Company CEOs have a responsibility to their shareholders to protect the company’s interest and they will. The manufacturing sector is agile and mobile to survive and thrive - it is just a question of where.

Climate policy and manufacturing competitiveness

IECA has not attempted to gain consensus by the industrial sector on what is the best way to regulate GHG emissions for the US economy or for the manufacturing sector. However, there is little question how the majority view policy options.

Every discussion begins and ends with “competitiveness”. Manufacturers compete globally and for many, the cost of energy and carbon will determine whether they will successfully compete in domestic and global markets.

The “absolute” cost of energy and carbon does not matter so long as all of our competitors around the world have the same increased costs. What matters to manufacturers is the “relative” cost of energy and carbon compared to our major global competitors regardless of whether they are in Europe or a developing country.

For that reason, US climate policy must not increase our relative costs. This means that manufacturing competitiveness must also be dealt with at the international level. While this presents a challenge for policy makers, it also provides a wonderful opportunity.

Those of us from the industry believe that more GHG emission reductions can be achieved globally when industrial climate policy instruments are focused on productivity that is, increasing production while reducing energy consumption. It’s a win-win and recognizes that all players can only manage the energy use inside their plant and often have little control on the type of energy available.

There is general agreement by US manufacturers that other countries will not knowingly sacrifice their manufacturing jobs in response to climate policy. Since China tends to be a policy lynchpin, it is importantly to note that they especially will not sacrifice their manufacturing competitiveness to address climate change.

It is China's manufacturing sector that has raised its status to a world power by creating jobs and exports that have provided a significant and unequalled trade surplus. Now, the US is dependent upon them to buy our treasury bills and finance our debt. This is not an enviable position for the US nor is it necessary.

To its credit, the Chinese government has a history of emphasizing the importance of the manufacturing sector which is in contrast to the US government. China has also provided export tax credits, subsidies for energy costs and manages its currency. Some US government officials claim that currency control gives China a 40% competitive advantage over US manufacturers. Whether it's the currency or not, China's manufacturing sector is winning and US manufacturing is losing.

Any US climate policy option must hold manufacturing harmless until major competitors in both developed and countries in transition have comparable energy and carbon cost increases. Comparable reduction requirements do not meet the test. Without this protection, US manufacturers will protect their shareholders and move production facilities to countries that offer a competitive environment.

Well intentioned members of Congress have proposed a cap and trade system that would provide manufacturers with "some" free allowances that would decline over time and would cover "some" of the resulting higher energy costs. While appreciated, these provisions are not adequate to allow the industrial sector to compete, grow domestic production and exports. Many US industries have been working on energy efficiency for decades and simply don't have technology available to make step changes needed to meet these ratcheting targets.

Under these provisions we will still have a declining GHG cap that reduces our production; unpredictable costs for energy, carbon and transaction costs; and un-necessary cost increases. It also does not do anything to help our domestic customers who will be asked to absorb higher costs for our products.

Economy-wide cap and trade is simply the wrong policy platform for the manufacturing sector. IECA wants a climate policy that will allow US manufacturing to: invest in the US; does not create winners and losers; does not penalize those who have already invested in energy efficiency; and transparency so that the system cannot be manipulated or gamed.

Relatively few manufacturers in the industry support cap and trade. The ones that do have either inherent special circumstances that allow them to gain a relative competitive advantage; have already moved their energy intensive manufacturing offshore; will significantly benefit from increased product sales or are simply not energy intensive and are not measurably impacted.

We do not know any manufacturing companies who support carbon cap and trade with auction. This is completely understandable because the manufacturing sector needs predictability over long time horizons for capital investment. The auction of carbon allowances does not give price certainty plus manufacturers are disadvantaged in competing for the auctioned carbon with regulated utilities who can afford to pay any price and then pass the cost on to consumers to pay.

If the government lets Wall Street participate, the auction option gets even worse. In general, manufacturers believe that only companies who are required to reduce GHG emissions should be allowed to purchase carbon allowances or offsets. This leaves Wall Street out.

Auctioning is the quickest way to lose manufacturing jobs and they will go silently, one at a time and without an announcement. Each manufacturing production unit has a cost break-even that varies significantly from plant to plant and from company to company. As the cost of carbon rises, the manufacturer will not have any choice but to shut it down.

Very few companies support cap and trade even if allowances are initially provided free of charge because they recognize that these temporary allowances are not a safety net and their economic viability is in jeopardy long term. The engineering limitations of their manufacturing facilities leave little room for imagination – just realism.

A carbon tax is better than a cap and trade program because it does not constrict our ability to increase the volume of product produced, it is superior in transparency, and more easily adjusted at the border. Nonetheless, it is a cost that is not welcomed and un-necessary for the industrial sector to reduce carbon intensity. Clearly, a high carbon tax will be just as effective of putting us out of business.

There are about 350,000 manufacturing facilities in the U.S. It is estimated that about 7,800 facilities would emit 10,000 tons of CO₂ per year. By itself, regulating the industrial sector presents a significant regulatory challenge for the federal government. While only 7,800 would be regulated, the other 342,200 facilities and the American consuming public would be asked to absorb higher resulting product costs.

Representative Inslee-Doyle Provision

We appreciate the fact that Representative Inslee and Doyle have and continue to make an effort to protect the competitiveness of energy intensive industry within the confines of an economy wide cap and trade regime. The system they are developing is a complex method for providing industry with a rebate. Furthermore, we are concerned that we will rely on an untried system that may not protect industry in the short term. Without full cost relief in the short term, the manufacturing industry in the US will continue to fall to the realities losing competitiveness.

Recognizing that this provision probably continues to evolve, we see the following short-comings.

1. Determination of eligible sectors and facilities uncertain (new bill may clarify somewhat).
2. Only 85 percent of average needs covered (this would be less under the proposed BAT criteria in the new draft).
3. It does not compensate for the resulting higher natural gas or electricity costs. Implementing cap and trade will result in much higher demand for natural gas. Higher demand will drive up the cost of natural gas for all consumers. And, because natural gas fired power generation sets the marginal price of electricity in a growing portion of the country, it will also drive up the cost of electricity.
4. It uses "best practices" versus "average" efficiency standards.
5. Unclear that pool of allowances will be sufficient (i.e., which industries will become eligible, production levels, overall cap level, etc., are unknowable) -- feedstock and technologically unavoidable emissions treated same as "routine."
6. Far too much discretion to eliminate or weaken program through Presidential determinations that other countries have taken comparable actions.
7. Determination of carbon "leakage" (which affects Presidential determinations of whether to continue program, etc.) may create very difficult standard to meet -- i.e., demonstrating that increased foreign production and emissions are "caused" by increased U.S. costs.
8. "Other eligible entities" that can receive allowances (i.e., those that don't have direct compliance obligations) would be limited to compensation for electricity cost increases, but not other inputs.
9. The base year calculation of allowances will be very problematic given the recession and the dramatic change in manufacturing output.
10. Concern that conclusion of a sector agreement in itself will not be sufficient justification to terminate the allowance program, since there may be several, perhaps many years of differentiated treatment, where leakage will remain a serious risk.
11. Does not include allowances for feedstock and process gas.

Carbon trading – Take action to prevent market manipulation and fraud

We offer a simple question. If the U.S. government cannot prevent market manipulation, market power, fraud and excessive speculation in mature commodities like oil, natural gas and food

commodities, - not to mention loan derivatives, why would the government believe it can do so with carbon?

The reality is that preventing market manipulation and fraud in the carbon market will be much harder because all reductions are "project by project." Mature commodities like energy or food commodities have physically deliverable products. Carbon reductions are a response to doing capital projects that reduce carbon and the level or rate of reduction can change at any time. Some reductions will be for compliance reasons and some to generate carbon offsets, both are the underlying value or asset.

The national and international economic failures we are experiencing are the result of the financial industry's creation of highly leveraged instruments called credit default swaps and excessive commodity speculation during the first half of 2008.

Financial companies issued a significant number of credit default swaps that are insurance like contracts that other companies bought as protection against the default of mortgage backed securities. They reaped huge profits until the underlying asset values fell. When the mortgage market values began to fall, banks that had purchased the swaps demanded collateral from insurance companies which they could not pay. The house of cards crumbled.

From January to July of 2008, that same financial industry (Wall Street trading houses, hedge funds, sovereign funds and managers of passive index funds) drove the price of energy and food commodities to record levels. Experts now admit that with only a small exception, supply and demand fundamentals had little to do with the run up.

The natural gas market provides an excellent example. The price of natural gas about doubled from January to August of 2008. In that same time period, domestic supply of natural gas rose by 8 percent, national inventories were comfortably within their five year averages and demand was almost identical to the previous year. There was no supply versus demand reason for the doubling of the price. IECA estimates excessive speculation during that time period cost consumers around \$40 billion.

Some people respond that we can learn from those lessons and that we will not make the same mistakes as it applies to carbon markets. This does not give us comfort. On all counts, the Congress has failed to act to fix the regulatory oversight shortfalls that have cost consumers billions several times over.

Even after Enron manipulated the market that cost consumers billions, Congress did not act to close the Enron Loophole. After the collapse of the Amaranth, the giant hedge fund, it was discovered that it had successfully controlled almost 60 percent of the US natural gas market contracts and the Commodity Futures Trading Commission did not even know it. Congress did not act to fix it.

Then came last year's excessive speculation of the energy and food commodity market. A year has passed and Congress has not passed any laws to close multiple loopholes that allow speculators unlimited speculation nor have they addressed the long-only index funds. Lastly, Congress has not acted to change the laws to prevent new credit default swaps.

Trading carbon can and will suffer from both problems and more easily. The underlying value of carbon projects can change dramatically without warning leaving the purchaser with little recourse. Traders from around the world view carbon as their next great windfall profit. Just look at the EU market to see how carbon is traded, not for its underlying cost of abatement, but traded as an energy commodity.

Carbon offsets

The key thing to remember about offsets is that it represents a capital investment. Where ever the capital is invested will create new jobs. IECA companies want to create jobs in the US. But, as stated earlier, under cap and trade, companies will have no choice but to protect their shareholders and invest, if necessary in foreign countries to create offsets to stay in business.

In general, manufacturing companies would rather invest in projects to reduce GHG emissions and increase energy efficiency in their domestic facilities than buy carbon offsets from potentially our competitors in countries like China. The United Nation's "Clean Development Mechanism" (CDM) has approved projects in the manufacturing sector. For the last several years a large number of European countries have purchased CDM and Joint Implementation offsets to help meet their EU reduction requirements. We feel confident the US tax payer is not going to do the same for us.

Countries like China have turned the CDM into a money maker by adding a substantial tax to CDM credits and some companies have turned generation of CDM credits into increased sale of products.

A trade issue, a WTO issue - equals uncertainty and competitiveness risk

Because of this multiple exposure reality of the industrial sector, the congress and the industrial sector must evaluate any proposed carbon policy through the filters of both international trade competitiveness impact and cost impact.

Depending on the sector involved, this can lead to different answers on what type of policy is best suited to reducing greenhouse gas emissions and protecting domestic jobs and competitiveness. This is why a one size fits all cap and trade program is problematic for the manufacturing sector as a whole and why the industrial sector attitudes toward every alternative policy must be nuanced. Moreover, we are very concerned that the entire climate policy debate may become confused and tangled with a larger public finance debate.

As such, it is imperative that any legislative approach to dealing with the greenhouse gas issue include a strong and effective border mechanism to ensure that imports face the same costs and burdens as domestic production. Regardless of what Congress may do in terms of allocating allowances or otherwise reducing costs for trade-sensitive industries (which is critical), it is inevitable that such industries will face higher (and likely growing) costs associated with climate legislation. If we do nothing to ensure that foreign firms selling in this market bear these same costs, the result will simply be more imports from countries without similar environmental measures – a catastrophic result not only for our industries, but for the environment as well.

No one is suggesting a border mechanism that penalizes foreign production. Imports should be subject to the same costs of carbon that are imposed on domestic producers – no more and no less. This is essential to level the playing field until there is a uniform, global approach in place to address the climate issue. While a number of the bills that have been introduced in the House and Senate include border provisions, they have unfortunately included any number of loopholes and deficiencies that would undermine their effectiveness. The worst thing we could do is to put in place some type of "fig leaf" to purportedly address the problem without actually resolving it.

There have been a lot of questions about whether a border provision in the context of climate legislation would be compatible with WTO rules. The truth is that nobody knows for certain how WTO rules will be applied in this area because there is simply no binding precedent. Several points are clear, however.

First, there are very strong arguments that we can impose equivalent burdens on both domestic production and imports, so long as imports are treated no worse than domestic producers.

Second, given that any border mechanism is almost certain to be the subject of examination at the WTO it makes no sense to put in place an ineffective provision. We should enact a

meaningful mechanism that will truly impose equivalent burdens on imports and domestic production, and then see how the issues are resolved internationally.

Third, if it turns out that WTO rules are interpreted so as not to permit an effective border provision, that information will be critical to Congress as it considers climate policy. The fact is that no climate measure can or will be successful if it cannot ensure that imports bear the same burdens as domestic production.

The EU ETS did not work

There is an assumption that the EU ETS was a success. That is not the case. Carbon dioxide emissions in the United States fell by 1.8 percent in 2006, compared to a 0.3 percent increase in emissions in the European Union (EU), according to the U.S. Energy Information Administration. Both economies grew at a near-identical pace in 2006, about 3 percent for the year.

The EU ETS has served as an expensive means of establishing emissions baseline data on the few industrial sectors to which it has been applied. It also helped create huge windfall profits for most of Europe's electricity producers. And, it created another set of winners in the financial trading community. (As of 2008, almost 100 billion euro in annual trades within a five year period).

A few manufacturing companies also made money through trading but most likely due to over allocation of initial allowances. Most of the trading volume represents a new set of transactional costs, which only add to global competitive cost pressures.

Although Europe is only in the second phase of its emissions trading scheme, there is already evidence of serious economic and carbon leakage among manufacturers. This is evidenced by the serious debate underway in Europe that is aimed at preventing further erosion and protecting remaining manufacturing jobs and future capital investment in competitive sectors.

Our industrial sector colleagues in Europe point to several concerns with the EU ETS.

- Uneven playing field within and outside EU
- Distortion by the Burden Sharing agreement
- Allocations not based on performance targets
 - ✓ Creates wealth transfer without improving environmental effectiveness
- Electricity market not properly liberalized – Windfall profits for sector
 - ✓ Highly oligopolistic; inelastic demand; no price convergence between countries; very different primary energy sources for electricity production
- Extremely volatile carbon price – no clear signals
- Heavy monitoring, reporting & verification requirements costs
- Carbon market operating risk

President Obama's Cap and Trade Budget Proposal

President Obama's budget blueprint would establish a 100% auction based system, the revenues from which have been promised to an assortment of uses -- some related to achieving climate policy objectives and some completely unrelated. We strongly encourage the congress to not use climate policy as a federal revenue raiser.

Our interpretation of President Obama's budget proposal would mean that only the industrial and commercial sector would pay for the higher energy/carbon compliance costs. The electric and natural gas utilities will be able to pass the costs onto consumers under state utility regulation in states that are regulated. In those states, the electric utility sector will experience an increase in the average cost of producing electricity. In deregulated states there will be an increase in the cost of production for the marginal generation unit which clears the market. The Obama plan would provide rebates to some retail consumers to cover their increased costs. If this is correct, this means that only a small portion of the economy will bear the costs. This is not sound climate policy.

Improvements to existing manufacturing technology can reduce GHG intensity but not absolute GHG emissions

Given existing manufacturing processes, GHG intensity can continue to be improved as capital stock turnover occurs. This is why a positive investment environment is necessary. As we invest in energy efficiency projects, GHGs are also reduced. However, a declining GHG cap makes it impossible to produce larger quantities of product without increasing absolute GHG emissions. It is not physically stoichiometrically possible. New yet undeveloped technology will be needed.

While some fuel switching can still be done within the sector, it is not significant. Regulatory and financial barriers present a problem for greater use of CHP and waste energy.

A cap and trade policy does not address the underlying barriers to increasing a cost effective low carbon supply of energy

An economy-wide cap and trade will be costly because it overlays a one-size-fits-all approach. Each sector of the economy is significantly different and a one-size fits all economy wide cap and trade system is insensitive and thus less cost effective than a targeted sector approach. The SO₂ program had cost effective alternatives like low-sulfur coal and existing technology.

Energy intensive products are integral to the growth of the U.S. economy

The list of examples below illustrates how dependent literally every sector of the US economy is upon the industrial product sector.

Examples:

- The aerospace/defense industry uses steel, aluminum, plastics and chemicals.
- The air transport industry uses steel, aluminum, plastics and chemicals.
- The auto and truck industries use steel, aluminum, plastics, chemicals.
- The beverage industry uses aluminum, steel, paper, glass and plastic.
- The biotechnology industry uses chemicals.
- The commercial and home building construction industry uses brick, steel, aluminum, wood, cement and glass.
- The oil and gas industry uses steel, chemicals, cement.
- The chemical industry uses chemicals, steel, cement and glass.
- The computer industry uses plastics, chemicals, and glass.
- The electrical equipment industry uses steel and plastics.
- The electric and gas utility sector uses steel and cement.
- The food industry uses fertilizer, chemicals, plastics and paper.
- The home furnishing industry uses wood, glass, chemicals, and plastics.
- The heavy construction industry uses steel and rubber.
- The home appliance industry uses steel, aluminum, glass, chemicals, plastics and wood.
- The household products industry uses chemicals, plastic; paper, glass.
- The machinery industry uses steel, chemicals and plastics.
- The maritime industry uses steel.
- The packaging industry uses plastics, paper, aluminum and steel.
- The paper / forest products industry uses steel and chemicals.
- The refining industry uses steel, chemicals and cement.
- The pharmaceutical industry uses chemicals, glass and steel.
- Railroads use steel.
- The toiletries/cosmetics industry uses chemicals, plastics, paper, and glass.
- Anhydrous ammonia, the basic building block for nitrogen fertilizers is also an essential raw material for plastics, nylons and fibers, reagent for clean our emissions from electric and gas utilities, and chemical manufacturing.

Lessons learned from SO₂-NO_x trading do not apply to carbon trading

There seems to be widespread belief in the power of a cap and trade regime to bring about relatively low-cost reductions in greenhouse gas emissions. From a manufacturer's perspective,

there is admittedly some theoretical appeal to the underlying logic of such a system. The problem is - the devil is in the details. Few dispute the concern that an economy wide cap-and-trade system will be a very-expensive and large-scale experiment. There are large risks and uncertainty.

There are a noteworthy example where the cap-and-trade approach has been tried and there are important differences that must be acknowledged between those efforts and the possibility of imposing such a system on the entire US economy.

The U.S. SO₂ trading program applied to really only one domestic industry with near monopoly power, the electric utility sector. The purpose of that program was to allow a trading scheme within the sector that was designed from the beginning to allow a flexible, low-cost transition path to technology implementation. The goal was to move all emitters to a common level of reduced SO₂ emissions. On that point, it has largely succeeded.

Unlike the manufacturing sector, however, utilities are insulated from international competition. Furthermore, only (123) facilities were covered by the original program launched as part of the 1990 amendments to the Clean Air Act -- an economy-wide cap-and-trade program would encompass more than 10,000 facilities.

Technology solutions already existed to reduce SO₂ power plant emissions and low sulfur coal provided a low cost option. For many industrial sector participants, breakthrough technology programs are almost non-existent.

Manufacturers already have strong incentives to cut energy usage, so incremental emissions reductions are hard to come by and dramatic reductions will require transformational technologies not yet developed. On the other hand, experimenting with an expanded cap-and-trade program that only applied to utilities could be an incremental step forward, albeit one that still poses considerable risk and cost to downstream electricity users.

As stated earlier, one of the major problems that the industrial sector has is its inability to pass costs on due to global competition. Most electric utilities have regulatory cost pass-through. Below is a good example of the difficulties manufacturers face when competing with electric and a reason when we are concerned about cap and trade and our competitiveness.

The example is the RECLAIM (Regional Clean Air Incentive Market) NO_x and SO_x program run by the South Coast Air Quality Management District (SCAQMD) for the Los Angeles air basin. Under this RECLAIM NO_x and SO_x cap and trade program, both industry and utilities were provided with no-cost allocations. Each operating entity's (utility or industry) allocation stream was reduced in operating permits over the course of some 25 years.

After several years, the utilities realized that it was in their best interest to purchase all available allocations, to ensure that they were not adversely affected by any future changes. The utilities realized they could just pass their increased costs onto customers. The NO_x and SO_x RECLAIM prices skyrocketed. Many industrial concerns could not afford to buy any allocations they needed to continue their business operations, because they could not just pass on their increased cap and trade costs to the marketplace. SCAQMD then pulled the utilities out of the program to drop the allocation market prices and allow LA-based industry to more effectively compete. The market stabilized and air quality improved.

Recommendations to reduce GHG emissions

Below are several very important steps that can be taken by congress that will result in significant GHG reductions without use of cap and trade and can be acted upon immediately.

1. Increase performance standards on electricity and fossil fuel consuming devices

Setting higher energy efficiency standards for industrial equipment and technology associated with consumption of electricity or fossil fuels is cost effective and will provide a sustained long

term improvement GHG reductions. This also has the effect of setting performance standards for imported products that will compete for US business. Just as regulations have and are being promulgated to improve appliance standards, the same can be done with industrial equipment. As companies do maintenance on existing facilities or build new facilities, more energy efficiency equipment will be utilized.

2. Mandate an increase in utility purchases of electricity from manufacturing and commercial building waste heat and combined heat and power (CHP) projects

A December 1, 2008 Department of Energy report entitled “Combined Heat and Power – Effective Energy Solutions for a Sustainable Future” indicates that if the US increases CHP capacity from 9 percent to 20 percent of the grid by 2030, we can avoid 60 percent in the growth of US GHG emissions. Doing so also will increase the competitiveness of the manufacturing sector and increase jobs. To achieve this requires removing economic and market barriers at the federal and state levels.

3. Jump start the clean industrial revolution by creating a industrial sector low-cost loan program

Increased productivity and energy efficiency occurs when companies invest in existing or new facilities. Companies rarely invest during economic down turns like we are seeing today because there is uncertainty in the near-term return on investment. And, unless we act, the job creation will not occur. The solution is the development of a clean industrial revolution program that allows companies to borrow money from the Treasury at low interest rates, not require payment for four years and give ten years to pay it back. Not requiring payment for four years overcomes the short term concerns of a short term return on investment. Unlike some other business tax incentives, this program requires the investment be made in the US creating maximum benefit for the country.

4. Increase the Investment Tax Credit for Combined Heat and Power

Improve the applicability of the investment tax credit for waste energy and CHP projects by extending the 10% ITC.

5. Increase depreciation rates for all manufacturing sector capital assets to increase cash flow

Most assets fall under a depreciation schedule of 15-20 years. We recommend it be accelerated to 7 years.

6. Establish federal energy efficiency standards for existing and new homes and commercial buildings

Buildings consume 40 percent of US energy and they last for 80 to 100 years yet there is no federal requirement for consistent energy efficiency improvement. We support federal energy efficiency improvement standards set through collaboration with state governments.

Chart 1.

“Direct and Indirect” GHG Emissions

Table ES-3: CO₂ Emissions from Fossil Fuel Combustion by Fuel Consuming End-Use Sector (Tg CO₂ Eq.)

	1990	2007	Difference
Transportation	1487.5	1892.2	+27.2%
Industrial	1525.2	1565.2	+2.6%
Residential	927.1	1198.0	+29.2%
Commercial	749.2	1041.4	+39%
Electricity	1809.7	2327.2	+28.6%

*Source: DRAFT Inventory of U.S. Greenhouse Gas Emissions and Sinks :1990-2007

Chart 2.

World CO₂ Emissions by Sector

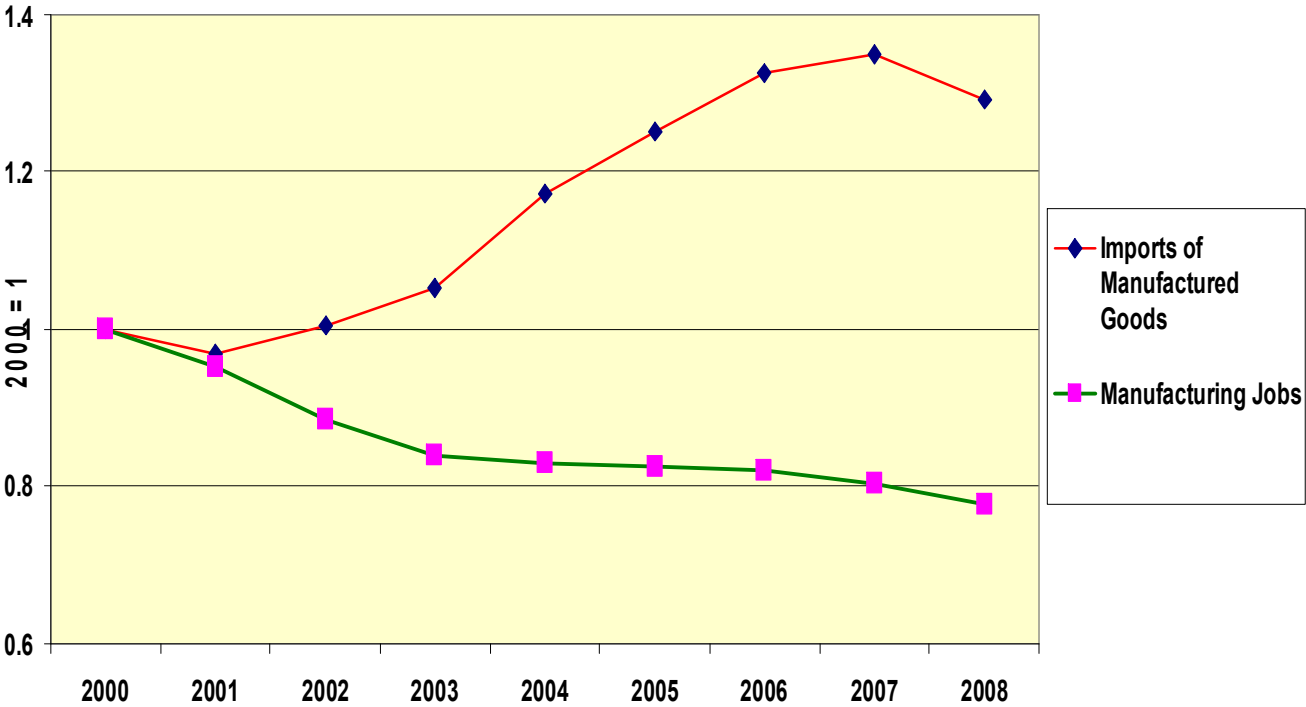
World CO₂ Emissions by Sector (GT CO₂)

Sector	1971	2006
Electricity and Heat	27%	41%
Transportation	20%	23%
Industry	27%	19%
Residential	10%	7%
Other	16%	10%
Total	14.1%	28%

**Source: IEA, 2008: CO₂ Emissions from Fuel Combustion

Chart 3:

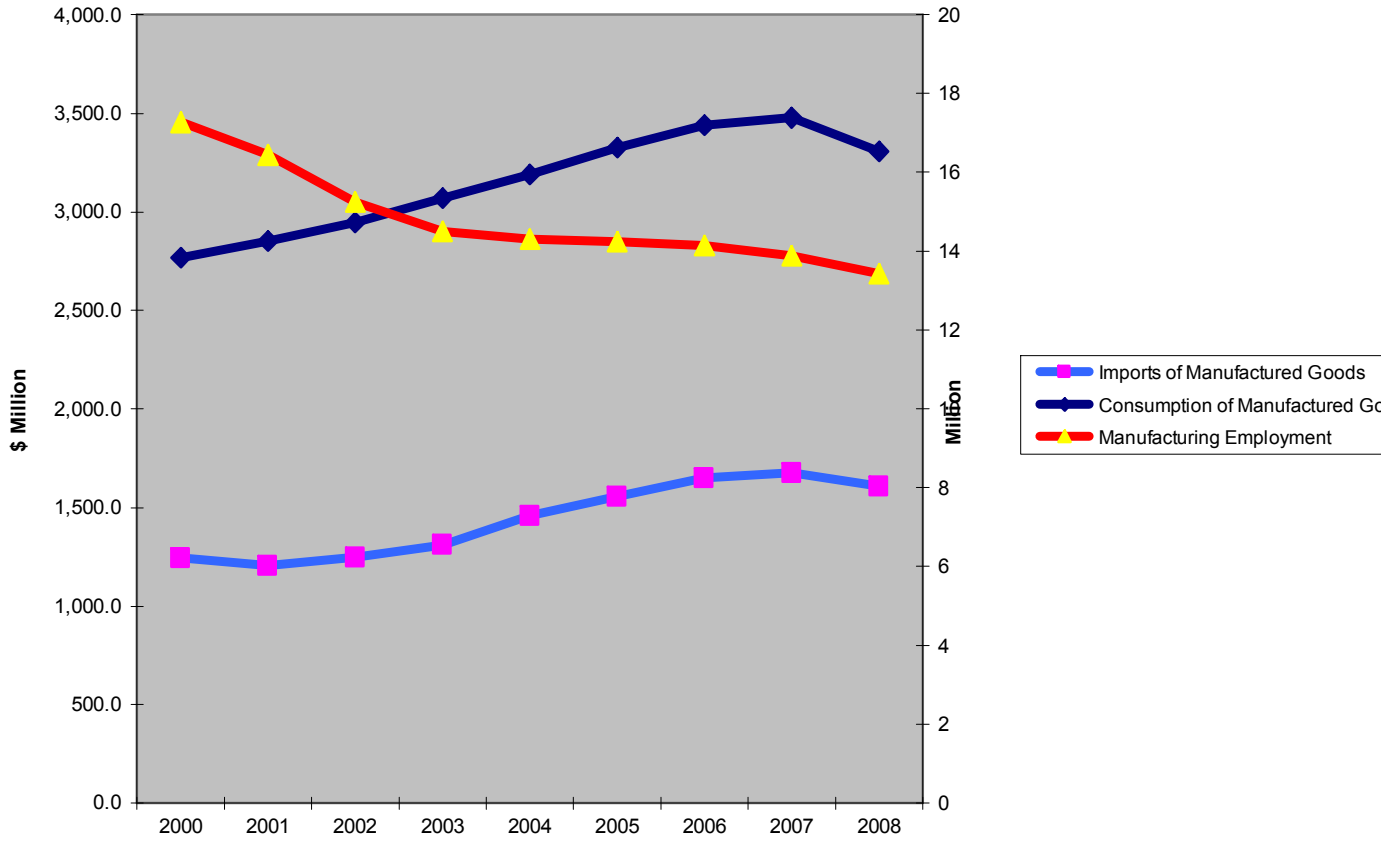
**Imports of Manufactured Goods and Employment in Manufacturing
2000 - 2008**



*Source: Bureau of Economic Analysis, Commerce Department, Bureau of Labor and Statistics

Chart 4

Manufacturing, Imports, and Employment



Source: Bureau of Economic Analysis; Commerce Department, Bureau of Labor and Statistics